

We claim:

1. A microscope stage assembly, which comprises a stage having a top side and a bottom side, an opening in said stage in the form of a linear slot, a carriage positioned adjacent to said slot for movement in a direction generally parallel with said slot, drive means for said carriage and said stage, specimen retaining means on the top side of said stage, and means for affixing said specimen retaining means to said carriage through said opening in said stage.
2. The microscope stage assembly of Claim 1, wherein said carriage and specimen retaining means move laterally relative to said stage in an x-axis.
3. The microscope stage assembly of Claim 1 comprising a stage mounting plate for mounting said assembly to a microscope.
4. The microscope stage assembly of Claim 3, including drive means for movement of said stage relative to said mounting plate in a y-axis.
5. The microscope stage assembly of Claim 1, wherein said drive means for said carriage comprises a belt and pulley assembly, and a microscope stage drive mechanism for movement of said belt and pulley assembly.
6. The microscope stage assembly of Claim 5, wherein said drive means for said carriage is positioned on the bottom side of said stage.
7. The microscope stage assembly of Claim 1, wherein said drive means for said carriage comprises a drive mechanism suitable for detachably securing to said stage at more than one location.

8. The microscope stage assembly of Claim 1 comprising a first engagement means for a microscope stage drive mechanism at a first location on said stage, and a second engagement means for said microscope stage drive mechanism at a second location on said stage.

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9. The microscope stage assembly of Claim 8, wherein said first location further comprises a microscope stage drive mechanism and a rack operatively arranged to engage with said microscope stage drive mechanism, for movement of said stage in a y-axis.

10 10. The microscope stage assembly of Claim 9 comprising a stage mounting plate for mounting said assembly to a microscope, said rack mounted to said stage mounting plate, said microscope stage drive mechanism and said rack operatively arranged for movement of said stage relative to said mounting plate in a y-axis.

15 11. The microscope stage assembly of Claim 8, wherein said second location further comprises a microscope stage drive mechanism and a rack operatively arranged to engage with said microscope stage drive mechanism.

20 12. The microscope stage assembly of Claim 11 comprising a stage mounting plate for mounting said assembly to a microscope, said rack mounted to said stage mounting plate, said microscope stage drive mechanism and said rack operatively arranged for movement of said stage relative to said mounting plate in a y-axis.

25 13. The microscope stage assembly of Claim 10 wherein said microscope stage drive mechanism is a unitary device adapted for movement of both said carriage and specimen retainer means relative to said stage in an x-axis, and movement of said stage relative to said stage mounting plate in a y-axis.

14. The microscope stage assembly of Claim 11 wherein said microscope stage drive mechanism is a unitary device adapted for movement of both said carriage and specimen retainer means relative to said stage in an x-axis, and movement of said stage relative to said stage mounting plate in a y-axis.

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15. The microscope stage assembly of Claim 13 wherein said unitary microscope stage drive mechanism comprises an inner drive shaft and an outer drive shaft arranged coaxially with respect to said inner drive shaft.

10 16. The microscope stage assembly of Claim 14 wherein said unitary microscope stage drive mechanism comprises an inner drive shaft and an outer drive shaft arranged coaxially with respect to said inner drive shaft.

15 17. The microscope stage assembly of Claim 1, wherein the stage further comprises edges and/or corners which are rounded.

18. A microscope comprising the stage drive assembly of Claim 1.

19. A microscope comprising the stage drive assembly of Claim 2.

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20. A microscope comprising the stage drive assembly of Claim 3.

21. A microscope comprising the stage drive assembly of Claim 4.

25 22. A microscope comprising the stage drive assembly of Claim 5.

23. A microscope comprising the stage drive assembly of Claim 7.

24. A microscope comprising the stage drive assembly of Claim 9.

25. A microscope comprising the stage drive assembly of Claim 12.

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26. A microscope comprising the stage drive assembly of Claim 17.

27. The microscope stage assembly of Claim 1, wherein said stage includes a peripheral edge and at least a portion of said peripheral edge comprises an ergonomic rim.

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28. The microscope stage assembly of Claim 27, wherein said ergonomic rim is rounded.

29. The microscope stage assembly of Claim 1, wherein said stage comprises at least one rounded corner.

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30. The microscope stage assembly of Claim 28, wherein said ergonomic rim further comprises a rounded corner.

31. A microscope comprising the microscope stage assembly of Claim 27.

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32. A microscope comprising the microscope stage assembly of Claim 29.

33. A microscope stage comprising an ergonomic rim.

25 34. The microscope stage of Claim 33, wherein said ergonomic rim comprises a rounded edge and a rounded corner.